IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

NON-PROVISIONAL PATENT APPLICATION

Title: Method of Changing Engine Oil

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BACKGROUND OF THE INVENTION

The internal combustion engine has been around since the late 18th century. Since its inception, there has been a continual attempt to improve not only the engine, but also the means to keep it maintained. One area where there is a constant need for engine maintenance is the repetitive changing of the oil. Many amateur and professional mechanics have devised numerous products and processes to make the needed oil change an easier and more efficient process. There are numerous patented devices that have attempted to improve on the oil change process. One area that has been neglected, is a system suited for changing the oil in a motorcycle engine.

V Twin motorcycle engines have been around since the early 1900's. Since then engineering in motorcycle engines has produced great advances. One such advance has been the development of a "High Tech, Light Weight, High Horsepower Engine" (hereinafter HT engine). With the development of the HT engine comes the need for engine oil particularly suited for the high heat/low friction environment within the HT engine. Numerous synthetic oils have been developed to be used in the HT engines. The problem that arises is when a motorcycle user or mechanic wishes to change from

petroleum-based oil to synthetic oil. This change is particularly problematic especially when made during the engine "break in" period, which is typically the first 5000 miles of engine use. Standard petroleum based engine oil builds up a varnish from the heated oil, sludge, and metal particles which breakdown from oil at high temperatures. Synthetic engine oils are engineered to have very little wear and very high lubrication properties. Many motorcycle mechanics agree that synthetic oil is not suitable for use during the "break in" period. A preferred method of breaking in the engine is to begin with petroleum based oil and subsequently change to a synthetic oil. When switching to the synthetic oil after the break-in period, the synthetic oil is invariably contaminated with residual petroleum engine oil that has remained in the engine. A mixture of the contaminated petroleum and synthetic oils will cause excessive burning of the synthetic oil because the rings will not seat on the cylinder walls due to varnish build up. The build up will cause poor compression, higher fuel consumption, and reduced engine performance. There is a need for a system for changing from petroleum to synthetic engine oil where a complete change is made and the synthetic engine oil is completely installed as a replacement.

SUMMARY OF THE INVENTION

The present invention is particularly suited for effectively performing and completing the conversion from petroleum based to synthetic engine oil.

It is an object of the present invention to provide a system for changing engine oil such that substantially all petroleum based engine oil is removed and replaced with synthetic engine oil.

It is further an object of the present invention to provide for a system for changing engine oil on a High Tech V Twin motorcycle engine.

It is further an object of the present invention change the engine oil in a manner such that containments such as varnish, sludge and metal particles are removed.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a flow chart diagramming the system by which the engine oil change and conversion takes place.

Figure 2 shows the location of the oil filter on a standard V Twin Motorcycle engine.

Figure 3 shows a housing called an "oil muzzle" which is placed over the opening where the oil filter connects to the engine.

Figure 4 shows the arrangements of the various components of the system.

Figure 5 shows a further arrangement of the various components of the system.

Figure 6 shows the oil muzzle prior to connection.

Figure 7 shows the connected oil muzzle.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The system of the present invention relates to a system for changing an engine from petroleum based engine oil to a synthetic oil. In a preferred embodiment, the

system is particularly suited for use with a motorcycle. An even more preferred embodiment utilizes the system on a motorcycle with a V twin engine. The term "synthetic oil" as used herein is meant to encompass engine lubricants that comprise a majority of volume that is not petroleum based. Typically, this is more than 50% of the w/v being a non-petroleum composition. In a preferred embodiment, the system for changing the engine oil comprises using a lubricant that is substantially 100% synthetic in composition. This includes compositions that are 100% synthetic lubricants. The term "oil muzzle" refers to the article which will attach to the oil filter housing on one end, and have receiving orifices on the opposite end for receiving inlet/outlet means by which the old oil will be removed and a new oil will be introduced to the engine.

Fig. 1. is a flowchart that details the steps of the process. Fig. 2 shows a motorcycle with the oil filter housing **21** shown in enlarged view. Fig. 3 shows the arrangement of the oil muzzle **16** and alignment with oil filter housing **21**. The oil muzzle **16** has secure to it, on one end, a gasket **34**. The gasket may be of any composition known in the art that will be resistant to any reactions with engine lubricant and will provide a substantially air-tight seal between the oil muzzle **16** and the oil filter housing **21** when the muzzle is joined to the housing and secured in place. The lateral surface **6** has an indented area **31**which is a clamping dimple. Orifices **32** and **33** are NPT ports that will receive each of two NPT nipples **36** that are attached to each of two valves **35** that are in turn connected to each of two hoses **37**. Fig. 4 shows the overall configuration of the system **10**. The system comprises a pressure tank **12** and internal component contained within a housing **41**. Said housing having affixed a containment filter **15** and a contaminated oil reservoir **18**. Fig. 5 shows the overall configuration of the system **10**

wherein in this figure, the view is of the outside of the housing **41** whereby the user accesses sanitizing control valve **13**, flow direction control valve **14**, contaminated oil dump control valve **17** and monitors the system on pressure gauge **19**. Fig 5 also show oil muzzle **16** gasket that will connect to the oil filter housing. The oil muzzle **16** has formed two orifices **51** and **52** on the surface containing the gasket **34**. Orifice **51** will act as an inlet to allow new engine oil to flow through oil muzzle **16** into the engine. Orifice **52** will receive removed oil exiting the engine. Fig 6 is a cross section of oil muzzle **16** showing clamping dimple **31** conversion oil port **32** that is connected to angled channel **61** which connects conversion oil port **32** with inlet port **51**. Further shown is Engine oil port **33**which is connected to outlet port **52**. Fig. 7 shows the oil muzzle **16** prior to being attached to oil filter housing **21**. A unique feature of oil muzzle **16** is that is connects to oil filter housing **21** without screw threads. In other words, oil muzzle **16** does not screw onto oil filter housing **21**, as would a conventional oil filter. Clamp **70** is positioned such that spherical locating tip **73** contacts oil muzzle **16** at clamping dimple **31**. The U shaped end **72** of clamp **70** attaches to a connector **71**, which is a threaded nut. The connector **71** receives threaded shaft **74** and treaded shaft **74** is further connected to a second connector **78** which is also a threaded nut that further comprises a grip sleeve. Clamping bracket **75** secures the grip sleeve **78** to plate **76**. Fig 8 shows the oil muzzle **16** secured into place on housing **21** by tightening connectors and **78** by which the distance between shaft **74** and U shaped clamp end **72** is reduced, and the oil muzzle **16** is help into place through the force exerted where spherical locating tip **73** contacts oil muzzle **16** at clamping dimple **31**.

The motorcycle is secured in place in any acceptable manner. The oil filter is removed and after removal, the drain plug for the oil reservoir is removed. The oil muzzle is secured into place on the oil filter housing in the spot that holds the filter. The oil muzzle is not threaded, as are conventional oil filters. Instead, the oil muzzle is secured into place with the clamp as shown in Figs 6 and 7. The valves **35** on the hoses immediately adjacent to the oil muzzle, as shown in Fig 3, are opened. Prior to commencing the process, sanitizing oil control valve **13** and contaminated oil dump control valve **17** and flow direction control valve **14** should be closed.

The pressure tank **12** is filled with synthetic engine oil. The top of tank **12** has a handle that is raised vertically and lowered which pumps air into the tank and pressurizes the system. Operator raises and lowers the pump handle on top of tank **12** several times until the pressure gauge shows approximately 35-40 psi. Once system is pressurized, open sanitizing oil control valve **13** and contaminated oil dump control valve **17**. Visually monitor the oil exiting the oil reservoir. When operator views the oil to be sufficiently clean, the drain plug is replaced into the oil reservoir. Allow system to fill reservoir until the engine oil dipstick indicates the reservoir is full. Once the reservoir is full turn off sanitizing oil control valve **13** and open flow direction control valve **14.** Start the motorcycle and monitor the clarity of the oil exiting the system into the contaminated oil disposal reservoir **18**. Once the oil entering the contaminated oil disposal reservoir **18** is sufficiently clean close contaminated oil dump control valve **17** and allow the engine to idle for 15-20 minutes.

Remove the drain plug and allow the oil to drain. The oil muzzle is removed by loosening the screw connectors **71** and **78** on clamp **70**. Place a new oil filter on the filter housing. Replace the drain plug and fill the reservoir with synthetic engine oil.

While the invention has been described in its preferred form or embodiment with some degree of particularity, it is understood that this description has been given only by way of example and that numerous changes in the details of construction, fabrication, and use, including the combination and arrangement of parts, may be made without departing from the spirit and scope of the invention.